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## Abstract:

Thyristor controlled method in AC voltage regulator has very low dynamic response and discharge large amount of harmonic components. PWM Controlled Buck-Boost AC Voltage Regulator can efficiently and economically be used in low and medium power applications in the advantage of design simplicity with operation reliability in a clear withstand of naturally commutated schemes. It has very fast response speed, low harmonics component distortion and high power factor. This paper propose a voltage controller with output peak voltage and reference as feedback signal and adopts PID control strategy to regulate the output voltage. In this paper, simulation of PWM Controlled Buck-Boost AC Voltage Regulator is presented using PSIM software. The waveforms of input and output voltage and current, the power factor characteristics are discussed and verified.